OUR CNG EXPERIENCE & FUTURE PLANS









Rick Wade

General Manager

COMPANY INFORMATION

- A local, privately-owned refuse collection business
- 85 employees
- Serving Palm Springs (since 1972),
 Desert Hot Springs & the neighboring unincorporated area

COMMUNITY INFORMATION

- <u>Services</u> complete refuse & recycling collection services
- Economy tourism-based
 - 50,000 full-time population
 - 200,000 peak population
- Clean Fuel Leadership
 - Mayor Will Kleindienst, City of Palm Springs
 - Dick Cromwell, SunLine Transit Agency
 - ENRG Corporation (formerly Pickens Fuel Corp.)

OPERATING CHALLENGES

- Climate Hot & dry
- <u>Location</u> isolated from major service centers (support groups in the LA Basin)
- Terrain Relatively flat BUT 15-mile uphill drive to landfill
- Vehicle Performance Power, payload & reliability
- Fuel Availability LNG vs. CNG

FLEET INFORMATION

Diesel-power

- 12 residential refuse vehicles
- 3 residential recycle vehicles
- 6 commercial refuse vehicles
- 1 commercial recycle vehicle
- 6 roll-off vehicles

CNG-power

- 2 residential refuse vehicles
- 1 residential recycle vehicle
- 1 commercial refuse vehicle
- 1 commercial recycle vehicle
- 1 misc. support vehicle

PRESENT CNG CONFIGURATION

Engines

Cummins 8.3, 280 bhp, 850 ft. lbs. torque, dedicated CNG

Chassis & Bodies

- Volvo WXLL Chassis
- Whitke & Amrep Refuse bodies

CNG EXPERIENCE 1 of 3

Expectations

- Cummins 8.3 (CNG) would lack power to climb the hill to the landfill
- Inadequate on-board fuel capacity

 Slow to refuel at present refueling site (30 – 60 minutes per day)

Actual Experience

- Power was comparable to L10 & Volvo VED7 diesel
- Capacity was inadequate (completed 70% of route before refueling)
- Confirmed, refueling takes 30
 - 60 minutes

CNG EXPERIENCE 2 of 3

Expectations

- Reduced payload
- Reduced fuel economy

 In-house mechanics lack experience

Actual Experience

- Confirmed but not a major issue.
- Fuel economy (3MPG) identical to diesel
- Our mechanics kept pace by observing the diagnostic processes of manufacturer's techs

CNG EXPERIENCE 3 of 3

Expectations

Unreliable engines

Actual Experience

- First 4 months plagued by:
 - Multiple ICM failures (design issue)
 - Short spark plug life & availability

Concluded that short-term reliability is acceptable; long-term unknown.

PLANS FOR THE FUTURE

Acquisitions

15 CNG collection vehicles in the next 12 months

Engines

- Westport/Cummins 8.3 Gas+,
- John Deere 8.1,

Chassis & Bodies

- AutoCar Expeditor & Crane Carrier LET chassis
- McNeilus refuse bodies

SUMMARY

- CNG power is adequate for our application
- CNG for refuse duty applications are still in the R&D cycle
- CNG on-board fuel storage not a problem with increased capacity of new refueling station
- Overall, hopeful that manufacturers will step up their support of this application for our industry

For more information contact:

Rick Wade, General Manager Palm Springs Disposal Services (760) 327-1351, Ext. 307 Rick@palmspringsdisposal.com